



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/748,650	12/22/2000	George D. Whiteside	8481/PMC	4767
20349	7590	11/15/2004	EXAMINER PHAM, HAI CHI	
POLAROID CORPORATION PATENT DEPARTMENT 1265 MAIN STREET WALTHAM, MA 02451			ART UNIT 2861	PAPER NUMBER

DATE MAILED: 11/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/748,650	<b>Applicant(s)</b> WHITESIDE ET AL.	
	<b>Examiner</b> Hai C Pham	<b>Art Unit</b> 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.  
4a) Of the above claim(s) 11-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-10 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-10, drawn to a method of imaging a digital display, classified in class 347, subclass 256.
  - II. Claims 11-15, drawn to a device for transposing a lens, classified in class 359, subclass 696.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the movement of the lens in and out of the optical axis can be performed without requiring any specific structure as claimed in Invention II. The subcombination has separate utility, namely the device for transposing the lens can be used in a camera where a movable correcting lens assembly is needed to bring a pattern into sharp focus with the image at the film plane or in an optical scanning device where the lens is moved in a certain direction such that the scanned image can be reproduced on a photosensitive material.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Attorney Tim A. Cheatham on November 1st, 2004, a provisional election was made with traverse to prosecute the invention of Group I, claims 1-10. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-15 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim

Art Unit: 2861

remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Specification***

8. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means," "said," and "comprise," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

9. The abstract of the disclosure is objected to because the abstract contains legal phraseology that should be avoided, e.g., "means" (lines 2, 15, 16) and "comprising" (lines 3, 5, 14). Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 112***

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 9 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 2861

Claim 9:

- Line 13, "said first lens" lacks antecedent basis. It is suggested to rephrase the claimed limitation as follows --a first lens of said plurality of lenses--.

Claim 10 is dependent from claim 9 above and is therefore indefinite.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1-3 and 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shirochi (U.S. 5,689,283) in view of Iizuka (U.S. 6,113,240).

Shirochi discloses a method of imaging a digital display onto an image plane, wherein the resolution of an image on the image display system (display monitor 224) or on a hard copy of a printer (225) is increased by shifting vertically a lens (31) out of the optical axis (Fig. 11), the printer including a digital display (LCD panel 10), a lens (31), and an image plane (as defined by the location of the viewer 1 in the case of the display system or by a hard copy in the case of the printer), which are arranged in that order along the direction of the optical axis (Fig. 5), wherein the lens (31) is transposed vertically out of the original optical axis for exposing the hard copy with a second data, which is shifted by a distance equal to the width of one pixel image (or half of the pixel

Art Unit: 2861

pitch  $P_v$ ) (col. 5, lines 14-29) (Figs. 1A-1C) and wherein the digital display is illuminated again with the same digital image data set for the same fixed period of time. Shirochi further teaches that the apparent number of pixels can be optically increased horizontally as well as vertically such that the lens is repeatedly transposed for forming at least four pixels (col. 19, lines 58-62).

However, Shirochi fails to teach the provision of a plurality of lenses, wherein the transposable lens has a different diopter power as compared to that of the remaining lenses.

Regardless, Iizuka discloses a digital display system including a LCD panel (3), a first lens (condenser lens 4) for focusing the light modulated by the LCD panel to the front focus point of a second lens (projection lens 6), which focuses the modulated light onto the screen (5), the first and second lenses having different focal lengths and having positions adjustable along directions perpendicular to the optical axis to move the projected image on the screen in two dimensional directions.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate a plurality of lenses in the device of Shirochi as taught by Iizuka. The motivation for doing so would have been to keep the modulated light beam always focused during the transposition of the lens.

Shirochi further teaches:

- Each pixel (11) of said digital display (LCD 10) is capable of illuminating only one color (each pixel 11 of the LCD panel being dedicated to either one of the primary colors RGB) (Fig. 6),

Art Unit: 2861

- The movement of said transposable lens (31) for both said transposing for a first time and said transposing for a second time are in a direction along one axis (vertical axis) (Fig. 1C),
- The movement of said transposable lens (31) for both said transposing for a first time and said transposing for a second time are in a direction along one axis (vertical axis) and in opposite directions (the lens 31 returning to the original position before being shifted horizontally to increase the number of pixels in the horizontal direction),
- Said first, second, third fixed periods of time are a portion of photosensitive medium's total exposure time (the same image data being repeatedly used to expose the hard copy of the printer in both vertical and horizontal direction),
- Said digital display is a liquid crystal display (LCD panel 10),
- Said first digital image data set, and said second digital image data set, and said third digital image data set, are all the same digital image data set (each of the pixels RGB being repeated in order to increase the resolution).

#### ***Allowable Subject Matter***

14. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

15. The following is a statement of reasons for the indication of allowable subject matter: the primary reason for the indication of the allowability of claim 4 is the inclusion



Art Unit: 2861

therein, in combination as currently claimed, of the limitation "wherein the movement of said transposable lens for both said transposing for a first time and said transposing for a second time are in a direction along one axis and in the same direction", which is not found taught the prior art of record considered alone or in combination.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L Talbott can be reached on (571) 272-1934. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HAI PHAM  
PRIMARY EXAMINER

November 10, 2004